REMARKS

Favorable reconsideration of this application is respectfully requested in view of the following remarks.

By way of this Amendment, the dependency of Claims 4 and 5 has been changed so that such claims depend from dependent Claim 3. In addition, Claims 4 and 5 have been amended to delete language defining subject matter generally set forth in dependent Claim 3.

In light of the change in dependency of Claims 4 and 5, withdrawal of the claim rejection based on the second paragraph of 35 U.S.C. § 112 is respectfully requested.

The subject matter of this application pertains to an opening and closing control system for an opening-closing member of a vehicle. The opening and closing control system comprises an opening and closing mechanism for opening and closing the opening-closing member relative to the vehicle, an actuator which operates the opening and closing mechanism, and an electromagnetic clutch that controls torque transmission by connecting and disconnecting the actuator and the opening and closing mechanism. In addition, an opening and closing angle detecting means is provided to detect the opening and closing angle of the opening-closing member relative to the vehicle. Based on the detected results from the opening and closing angle detecting means, a control means controls the electric power supplied to the electromagnetic clutch.

The Official Action sets forth a rejection of independent Claim 1, as well as dependent Claim 2, based on the disclosure contained in U.S. Patent No. 6,382,706 to *Yuge et al.* This document discloses an operating device 8 for operating a back

door 3 on an automobile to move the back door 3 in an opening direction and a closing direction. The operating device 8 includes a reversible type electric motor 10 connected to a speed reduction device 11. The speed reduction device 11 includes an electromagnetic clutch 11c which effects connection and disconnection of torque transmission from the motor 10. The operating device is also provided with a control unit 25 which controls operation of the operating device.

The comments at the bottom of page two of the Official Action point out that the control unit 25 disclosed in *Yuge et al.* controls electric power supplied to the electromagnetic clutch 11c, noting in particular the discussions in column 9, lines 48-58, column 11, lines 6-9 and 31-36, column 12, lines 62 and 63, and column 13, lines 24-27. For the most part, these portions of the disclosure in *Yuge et al.* describe that current is supplied to the electric motor 10 and the electromagnetic clutch 11c to move the back door 3 in the opening and closing directions, and also describe that the supply of current to the electric motor 10 and the electromagnetic clutch 11c to stop the movement of the back door 3. For example, the discussion in column 9, lines 48-58 generally notes that the door opening drive section 30 and the door closing drive section 31 output drive current that is supplied to the electric motor 10 and the electromagnetic clutch 11c to move the back door in the opening or closing direction. The discussion in lines 6-9 of column 11 *Yuge et al.* pertains to the operation of the operating device when moving the back door in the closing direction and describes that the electric motor 10 is energized and the electromagnetic clutch 11c is engaged in such a way that the motor 10 is operating at the time the electromagnetic clutch 11c is engaged. In lines 31, 36 of column 11, *Yuge et al.* points out that the motor 10 is braked when the back door moving in the closing

direction reaches a given position. The discussion in lines 62 and 63 of column 12 describes the energization of the electric motor 10 and the engagement of the electromagnetic clutch 11c during the opening movement of the back door, while the discussion in lines 24-27 of column 13 describe disengagement of the electromagnetic clutch 11c and de-energization of the motor 10 when the back door has reached the full-open position

One of the differences between the opening and closing control system at issue here and the disclosure in *Yuge et al.* pertains to the control means that controls the electric power supplied to the electromagnetic clutch. It is understood that the rejection of original independent Claim 1 is based on the observation that the control unit 25 disclosed in *Yuge et al.* can be said to control the electric power supplied to the clutch 11c based on input from the rotary encoder 11d because the control unit 25 either supplies power to the clutch 11c to engage the clutch and initiate movement of the back door 3 or stops the supply of power to the clutch to disengage the clutch to stop movement of the back door.

However, in the opening and closing control system of the present invention, the control means varies the electric power supplied to the electromagnetic clutch other than to engage and disengage the clutch. That is, as described in the application and illustrated in Fig. 9, the control means varies the power supplied to the electromagnetic clutch after power supply to the clutch is initiated and before power supply to the clutch ceases. Independent Claim 1 has been amended to better set forth this distinction by reciting that the control means varies the electric power supplied to the electromagnetic clutch after power supply to the electromagnetic clutch is initiated and before power supply to the electromagnetic

clutch ceases. In *Yuge et al.*, there is no disclosure of varying the electric power supplied to the electromagnetic clutch 11c after power supply to the electromagnetic clutch is initiated and before power supply to the electromagnetic clutch ceases.

It is thus believed that the claimed opening and closing control system recited in independent Claim 1 is patentably distinguishable over the disclosure contained in *Yuge et al.*

The Official Action relies upon U.S. No. 6,834,463 to *Fukumoto et al.* for its disclosure of an opening and closing mechanism having various features. However, the disclosure in *Fukumoto et al.* does not make up for the deficiencies pointed above with respect to the disclosure in *Yuge et al.* Accordingly, a combination of the disclosures contained in *Yuge et al.* and *Fukumoto et al.* would not have directed one to do that which is defined in Claim 1 as the invention.

This Amendment also presents new independent Claim 6. New independent Claim 6 is similar to independent Claim 1, except that Claim 6 recites that the control means varies the electric power supplied to the electromagnetic clutch after the electromagnetic clutch connects the actuator and the opening and closing mechanism and before the electromagnetic clutch disconnects the actuator and the opening and closing mechanism based on the detected result from the opening and closing angle detecting means. The control unit 25 disclosed in *Yuge et al.* does not vary the electric power supplied to the electromagnetic clutch 11c in the manner recited in independent Claim 6.

Dependent Claims 2-5 and 7-10 are allowable at least by virtue of their dependence from allowable independent claims.

Early and favorable action with respect to this application is respectfully requested.

Should any questions arise in connection with this application or should the Examiner believe that a telephone conference with the undersigned would be helpful in resolving any remaining issues pertaining to this application the undersigned respectfully requests that he be contacted at the number indicated below.

Respectfully submitted,

BURNS, DOANE, SWECKER & MATHIS, L.L.P.

Date: June 22, 2005

By: _____
Matthew L. Schneider
Registration No. 32,814

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620